

IN THE CLAIMS

5 (Amended) Claim 1: An improved intercropping and mulching method without artificial herbicides, fertilizer, pesticides and manure, said improved intercropping and mulching method comprising:

(1) no-till planting an annual green manure crop in the soil of a predetermined area;

10 (2) harvesting mowing said annual green manure crop the following spring, said annual green manure crop being combined with organic residue from said predetermined area to form combined green manure, said organic residue comprising desiccated intact soybean roots and desiccated intact nitrogen nodules, said combined green manure comprising a first portion of said combined green manure and a second portion of said combined green manure, said second portion of said combined green manure further blended with said soil of said predetermined area to a depth of approximately nine to fourteen inches, said first portion of said combined green manure becoming a combination mulch, said annual green manure crop remaining unmowed until tillage of said soil,

15

20 (3) intercropping at least two commercial crops within said soil blended with said second portion of said combined green manure,

(4) thereafter ~~dispersing~~ spraying said first portion of said ~~combined combination~~ mulch upon the surface of said soil of said predetermined area, said predetermined area now containing seeds of said at least two commercial crops ~~first commercial crop and second commercial crop~~,

5 whereby, said combined green manure provides nutrients to said at least two commercial crops and said combination mulch provides a ground cover and nutrients for said at least two ~~intercropped~~ commercial crops, said annual green manure crop and said organic residue debris protecting said soil of said predetermined area during the winter.

10 (Amended) Claim 2. The improved intercropping and mulching method as described in Claim 1, wherein one of ~~said first intercropped commercial crop at least two commercial crops~~ comprises a legume.

(Amended) Claim 3. The improved intercropping and mulching method as described in

15 Claim 1, wherein one of ~~said first intercropped at least two~~ commercial [[crop]] crops comprises soybeans.

(Amended) Claim 4. The improved intercropping and mulching method of Claim 1 wherein one of ~~said at least two commercial crops~~ comprises corn.

20 (Amended) Claim 5. The improved intercropping and mulching method of Claim 1 wherein one of ~~said at least two said~~ commercial crops comprises ~~comprise~~ corn and one of ~~said at least two commercial crops comprises~~ soybeans.

(Amended) Claim 6. The improved intercropping and mulching method as described in
Claim 1, wherein there are no intercropped plants other than said at least two commercial
crops a first and second intercropped commercial plants, said first and second
intercropped commercial plants at least two commercial crops comprising said corn and
5 said soybeans.

(Amended) Claim 7. The improved intercropping and mulching method as described in
Claim 6 wherein said corn and said soybeans are planted in [[an]] alternating patterns
comprising soybean areas and corn rows, each said soybean area and said corn row
10 comprising a predetermined lateral width.

(Amended) Claim 8. The improved intercropping and mulching method as described in
Claim 7, wherein said annual green manure crop comprises buckwheat.

15 (Amended) Claim 9.

An improved intercropping and mulching method comprising:

(1) planting an annual green manure crop in the soil of a predetermined area;

20 (2) harvesting mowing said annual green manure crop the following spring, said annual
green manure crop being combined with organic residue to form combined green
manure, said combined green manure comprising a first portion of said combined green
manure and a second portion of said combined green manure, said second portion of said
combined green manure further blended with said soil of said predetermined area, said
first portion of said combined green manure becoming a combination mulch,

(3) intercropping at least two commercial crops within said soil blended with said second portion of said combined green manure,

(4) thereafter dispersing spraying said first portion of said combined combination mulch
5 upon said soil of said predetermined area, said predetermined area now containing seeds
of said at least two commercial crops,

whereby said combined green manure provides nutrients to said at least two commercial
crops and said combination mulch provides a ground cover and nutrients for said at least
10 two intercropped commercial crops, said annual green manure crop and said organic
residue debris protecting said soil of said predetermined area during the winter,

one of said first intercropped commercial crop at least two commercial crops comprising
a legume,

15 one of said first intercropped two commercial crops further comprising soybeans,
one of said at least two commercial crops comprising corn,
said at least two said commercial crops comprising corn and soybeans,
there being no intercropped plants other than said at least two commercial crops
comprising corn and soybeans,

20 said corn and said soybeans planted in alternating patterns comprising corn rows and
soybean areas respectively, each said soybean area and said corn row comprising a
predetermined lateral width,

said annual green manure crop selected from the group consisting of buckwheat or buckwheat and wheat,

The improved intercropping and mulching method as described in Claim 1, wherein said legume commercial crop is from the group consisting of Austrian peas, hairy vetch, red 5 clover, soybeans, annual rye grass and winter rye, and said annual green manure crop comprises buckwheat and wheat.

(Amended) Claim 10. The improved intercropping and mulching method as described in Claim 9[[7]], wherein said annual green manure crops are mowed with a conventional 10 mechanical forage harvester.

(Amended) Claim 11.

The improved intercropping and mulching method as described in Claim [[1]] 10, wherein said combination green manure is sprayed upon said soil of said predetermined 15 area after blending and chopping of said green manure plants and organic debris within a conventional bale chopper.

(Amended) Claim 12. The improved intercropping and mulching method as described in Claim [[6]] 11 20 wherein said intercropped soybeans are planted simultaneously with said intercropped corn by using a fork lift attachment with two forks, front end loader and tractor, conventional corn planter, and a modified conventional seed drill, said modified seed drill and said fork lift attachment attaching to said tractor by said front end loader, said [[for]] fork lift attachment elevated with a hydraulic lift and a retrofit adapter.

(Amended) Claim 13. The improved intercropping and mulching method as described in
Claim 12 wherein said conventional corn planter deposits said corn seeds between
previously planted said soybean areas, said soybean areas consisting of soybean subrows,
5 said soybean subrows deposited by said modified seed drill attached to said prior art
tractor, said corn seeds deposited within straight corn furrows.

(Amended) Claim 14. An improved intercropping and mulching method for corn and
10 soybeans, ~~said method~~ comprising:

(A) planting a commercial legume crop in the soil of a predetermined area during the
summer, said commercial legume crop forming organic debris within said soil after
harvesting of said commercial legume crop,

15 (B) no-till planting buckwheat and wheat during the following fall in said soil of said
predetermined area, said buckwheat and said wheat growing until the following spring,
said buckwheat and said wheat covering said soil during the winter,

20 (B) mowing ~~and tilling~~ said buckwheat and said wheat ~~within said soil~~ during said
following spring, said mowing ~~and blending~~ accomplished by ~~using~~ a conventional
~~forage harvester and a conventional tilling machine~~,
a ~~first~~ second portion of said buckwheat and wheat forming [[a]] an annual green manure
for said soil of said predetermined area, said organic debris also comprising said second
portion,

a first second portion of said buckwheat and said wheat forming a combination mulch for said soil, said combination mulch further comprising said organic debris after intercropping of said commercial crops,

5 (D) creation of creating consecutive corn rows, each said corn row comprising three subrows of soybean seeds within a soybean area, each said corn row further comprising one corn furrow, and

(E) seeding said soybeans soybean seeds in alternating said soybean areas between within
10 said consecutive corn rows by using a modified conventional seed drill[[,]] and a fork lift and with a front end loader[[;]] and a tractor,
said modified conventional seed drill comprising sets of three tru-vee openers along a horizontal opener draw bar and a third frame, said tru-vee openers comprising seed tubes, each said true vee opener further comprising an opener spring, said fork lift rigidly
15 attached to said modified seed drill by a first fork and second fork, said forks attaching to said modified seed drill by enclosing one set of said tru-vee openers, said modified seed drill [[so]] aligned with said tractor so [[that]] said soybean seeds [[are]] deposited deposit directly beneath and anterior to the tractor center,

20 [[E]] (F) seeding said corn seed with a conventional corn planter attached posterior to said tractor, said corn planter creating said corn furrows within said soil for planting of corn, said corn furrows containing linearly deposited said corn seeds, said corn furrows

spaced laterally from each other approximately 30 inches, said soybean subrows located
approximately midway between two consecutive said corn furrows,
[[F]] (G) covering said seeded soil with said combination mulch, ~~said conventional bale~~
~~chopper chopping said green manure plants and organic debris to create said~~
5 ~~combination mulch, said first portion of said~~ green manure plants and organic debris
placed within a forage box wagon ~~spun into unload augers~~ prior to chopping within said
bale chopper to form said combination mulch, said combination mulch sprayed onto said
soil of said predetermined area with a hose attached to ~~a conventional~~ bale chopper
mounted to [[a] said forage box wagon.

10

(New) Claim 15. The method described in Claim 14 wherein said soybean seeds are
planted at approximately eight to twenty seeds per square foot of said soil and said corn
seeds are planted at approximately one corn seed per eight linear inches of said soil, said
15 soybean seeds planted during the same pass across said preselected soil as said corn
seeds.

(New) Claim 16. The method described in Claim 14 wherein said modified seed drill
comprises eight said sets of said tru-vee openers and one center bar, a single said set of
20 said tru-vee openers fitting between said first and second forks, said single set of tru-vee
openers positioned immediately proximal to either side of said center bar, each said first
and second fork resting upon said opener draw bar on either side of said single said set of
said tru-vee openers, each said first and second fork attached to said opener draw bar by
a clamp.

25

(New) Claim 17. The method described in Claim 14 wherein each said three soybean subrows comprising a soybean area is approximately 21 inches in lateral width.

5

(New) Claim 18. The method as described in Claim 14 wherein rotating augers pull said organic debris and said green manure plants from said forage wagon into said bale chopper, said bale chopper attaching to a discharge opening by sliding said bale chopper until interior surfaces of a bale tube fit snugly over exterior surfaces of panels of said

10 storage box wagon.

(New) Claim 19. The method as described in Claim 14 wherein said true-vee openers are arranged in said sets of three, thereby leaving lateral space between each said set along said horizontal bar, each said set seeding soybeans within said three said soybean subrows when said modified seed drill is pulled by said tractor, each said lateral space seeded with said corn seed within said corn furrows while said corn planter is pulled by said tractor, said seeding of said corn seed and said soybean seed occurring with said modified seed drill and said corn planter operatively attached to a single tractor.

20

(New) Claim 20. The method as described in Claim 19 wherein said two sides of a bale tube attach to said bale chopper, said two sides of said bale tube snugly fitting over an anterior and posterior panel, said anterior and posterior panels surrounding augers of said forage box wagon, said sides of said bale tube mechanically attached to said anterior and posterior panels, said forage box wagon physically attaching

25

to said bale chopper main frame with L-brackets, said green manure plants and organic debris chopped within said bale chopper main frame after passing said augers.

5

10

15

20

25

30

35

40

45